

REMARKS

Introduction

Claims 1 – 59 are pending, with claims 1, 13, 32, 49 and 56 being independent.

Claim Rejections - 35 U.S.C. § 103

Claims 1 – 59 stand rejected under 35 U.S.C. § 103 as allegedly being unpatentable over U.S. Patent No. 6,006,097 to Hornfeldt et. al (hereinafter "Hornfeldt") in view of U.S. Patent No. 6,028,537 to Suman et al. (hereinafter "Suman"), and further in view of U.S. Patent Application Publication No. 2002/0021187 to Stenberg (hereinafter "Stenberg"), and further in view of U.S. Patent No. 5,510,801 to Engelbrecht et al. (hereinafter "Engelbrecht").

Based on the following remarks, Applicant respectfully requests that the rejection be reconsidered and withdrawn.

In the previous Reply, Applicant argued that none of the cited documents disclosed the use of pseudoranges, each of which represents a difference between a time of transmission and a time of reception, as well as a clock offset of the device, as required by each of Applicant's claims. In particular, none of the cited documents disclose the use of a clock offset of the device for which the location is being determined.

In the Response to Arguments (current Office Action at page 2), the Examiner disagrees, noting that Engelbrecht states that the time of arrival of a TV signal at Target Receiver 10 can be measured "relative to a received TV station signal" (Engelbrecht at col. 3, lines 11 – 16). Based on that statement, The Examiner provides the following argument:

In that case, the target receiver disregards its own internal reference clock 10R and instead adopts the clock (i.e. synchronizing signals) of the reference station as its own. In other words, the clock offset of the mobile device is *defined* as the clock offset between the reference station and another station.
(Office Action at page 2, emphasis in original)

Applicant respectfully disagrees in part. Applicant agrees that in this case the target receiver disregards its internal clock 10R. In the cited passage, Engelbrecht appears to describe the measurement technique called "time difference of arrival (TDOA)" where the difference in arrival times of two signals is measured. The principal advantage of TDOA over time-of-arrival (TOA) measurements lies precisely in the fact that the local clock offset is eliminated from the measurement. Because such TDOA measurements do not include the local clock offset, they cannot be characterized as the pseudoranges required by each of Applicant's claims.

Applicant respectfully disagrees with the Examiner's assertion that "the target receiver ... adopts the clock (i.e. synchronizing signals) of the reference station as its own." Here the Examiner appears to imply that Target Receiver 10 can obtain an accurate time reference from a TV signal received at an unknown location. Applicant asserts that, without more information, this is simply not possible. Furthermore, nothing in Engelbrecht supports the Examiner's contention.

Consequently, Applicant respectfully disagrees that the Examiner's assertion that "the clock offset of the mobile device is *defined* as the clock offset between the reference station and another station." As stated above, in such TDOA techniques the clock offset is eliminated from the measurement. To support his assertion, the Examiner relies upon Engelbrecht at col. 2, line 56 – 61. However, the cited passage merely describes measurements made by Reference Receiver 11, which uses the measurements to generate correction data describing the "drift" of the timing of the TV transmitters. In particular, these measurements represent "knowledge of their timing offset and offset change" (col. 2, lines 66 – 67). Note that these offsets refer to the timing at the TV transmitter, not to the local clock 10R of Target Receiver 10. Reference Receiver 11 provides the correction data to Target Receiver 10 to prevent "drift" in the location solution.

Finally, the Examiner provides the following argument:

Since these offsets are subsequently used to calculate the actual propagation delay, pseudo-ranges do "represent" the clock offset of the mobile device as claimed (in addition to the propagation delay).

(Office Action at page 2)

Applicant respectfully disagrees. As described above, these offsets (referring to the offsets of local clocks 10R) are not present in the TDOA measurements described by Engelbrecht. Therefore, any calculation based on these measurements cannot employ the offsets. To support his argument, the Examiner relies upon Engelbrecht at col. 3, lines 44 – 62. However, the cited passage merely describes the processing for a location solution, without any reference to the offset of local clock 10R of Target Receiver 10.

Conclusion

Applicant submits that all of the claims are now in condition for allowance, which action is requested. However, should there remain unresolved issues that require action, it is respectfully requested that the Examiner telephone Richard A. Dunning, Jr., Applicant's Attorney, at 831.420.0561 so that such issues may be resolved as expeditiously as possible.

Date: January 22, 2010
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Respectfully submitted,

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